BEFORE THE STATE OF WASHINGTON

ENERGY FACILITY SITE EVALUATION COUNCIL

In the Matter of Application No. 2003-01 SAGEBRUSH POWER PARTNERS, L.L.C. KITTITAS VALLEY WIND POWER PROJECT	EXHIBIT 60 (TU-T)

PREFILED DIRECT TESTIMONY
WITNESS #1 – TONY USIBELLI

Q Please state your name and business address.

A My name is Tony Usibelli and my business address is 925 Plum Street SE, Building 4, Olympia, Washington, 98504.

Q What is your present occupation, profession; and what are your duties and responsibilities?

A I am the director of the Energy Policy Division of the Washington State Department of Community, Trade, and Economic Development (CTED). In that capacity I am responsible for analysis, development, and implementation of state energy policies.

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These include policies related to state and regional electricity, energy efficiency, renewable energy development, energy emergency and security preparedness and response, development and implementation of the state energy strategy, retention and expansion of our clean/smart energy industry, and management of federal energy contracts. In addition, I represent the state of Washington as the vice-chair of the Western Interstate Energy Board (WIEB) (an affiliate of the Western Governors Association), as Governor Locke's representative to the Governors Ethanol Coalition, and as a member of the board of the National Association of State Energy Officials (NASEO). Also, as a member of the CTED management team I am involved in establishing policies for state economic development.

Q Would you please identify what has been marked for identification as Exhibit 60.1 (TU-1)

A Exhibit 60.1 (TU-1) is a résumé of my professional energy experience and my educational background.

Q Are you sponsoring any other exhibits for entering into the record, and if so would you please identify each exhibit that you are sponsoring?

A Yes. I am sponsoring the following exhibits.

Exhibit 60.2 (TU-2) Portion 2003 Biennial Energy Report (*Energy Strategy Update: Responding to the New Electricity Landscape*, February, 2003

Exhibit 60.3 (TU-3) Puget Sound Energy, Least Cost Plan-Executive Summary

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Exhibit 60.4 (TU-4) Puget Sound Energy – Press Release, *PSE Narrows Field for Future Electricity Supplies*

Exhibit 60.5 (TU-5) Seattle City Light, *Seattle Green* Power (web page)

Exhibit 60.6 (TU-6) Pacific Power, Our *Commitment to the Environment* (web page)

Exhibit 60.7 (TU-7) Bonneville Power Administration, *BPA News Short,* Dec. 18, 2001

Exhibit 60.8 (TU-8)Governor Gary Locke Press Release, *West Coast Governors Unite on Global Warming Strategy*

Q Are you able to answer questions under cross examination regarding these sections and exhibits?

A Yes.

Q. What will be the subject of your testimony.

A. My testimony will focus on four major areas: 1) The role of wind and renewable energy development with respect to state energy policy, 2) the large scale economic benefits of wind development, 3) the environmental benefits of wind compared to other fossil fueled electricity production technologies, and 4) electricity system benefits of wind projects.

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Policy

Q Is it the policy of the state of Washington to support the development of wind energy facilities?

A Yes. State law states "It is the policy of the state of Washington that: (1) [t]he development and use of a diverse array of energy resources with emphasis on renewable energy resources shall be encouraged." (RCW43.21F.015) In subsection (7) of the same statute the State Energy Strategy is established as an authoritative policy document which "…shall provide primary guidance for implementation of the state's energy policy." The latest edition of the State Energy Strategy identifies wind as a renewable resource and supports its development in Guiding Principle #2. The principle is: "Encourage the development of a balanced, cost-effective and environmentally sound resource portfolio that includes conservation, renewables, (e.g. , *wind*, geothermal, hydro, biomass, and solar technologies), and least-cost conventional resources." (Emphasis added). (Exhibit 60.2) (TU-2) In addition, CTED is identified in RCW 43.21F.045 (g) as the state department that shall "Serve as the official state agency responsible for coordinating implementation of the state energy strategy." It is state policy to encourage the development of wind resources, and CTED supports the Kittitas Valley Wind Power Project to that end.

Q Is that support unconditional?

A No, of course not. A policy of support for the development of wind energy in general does not translate automatically to support for any particular wind project regardless of

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site specific conditions. State law also says that the promotion of renewable energy sources must be "…consistent with other considerations of state policy…and with the promotion of reliable energy sources, the general welfare, and the protection of environmental quality…" (RCW 43.21F.010) This means that in order to garner state support, the Kittitas Valley Wind Power Project needs to prove a reliable, cost-effective, environmentally sound energy resource. I believe the evidence to date, in the application, the Draft Environmental Impact Statement, the applicant's prefiled testimony, and the process in general - though not yet finished - demonstrates that.

Q Why is it state policy to support the development of renewable energy resources, particularly wind?

A State policy does not support wind, de facto, over any other renewable resource, it supports the development of all renewable resources equally, except that, as I said above, preferred projects will be those that prove themselves most reliable, cost-effective and environmentally sound. Wind is particularly to be encouraged now because it is the most cost effective of the renewable resources, especially for utility scale projects. Wind is proving itself to have few significant environmental impacts. In addition, wind can provide a measure of improved reliability when integrated into the unique characteristics of our existing electric system which is so highly dependent on hydropower. Finally, wind is an indigenous resource. RCW 43.21F.010 Legislative finding and declaration says "The legislature finds and declares that it is the continuing purpose of state government…to promote energy self-sufficiency through the use of

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indigenous and renewable energy sources…"

Economics

Q. What are the economic benefits of wind energy development?

A. I believe the council will receive testimony from an EcoNorthwest representative on the direct benefits of this project to Kittitas County. This testimony is based in large measure on a study of those economic impacts that was funded by CTED. I do not intend to cover that analysis in my testimony.

Q. If you are not discussing the specific economic impacts of the Kittitas Valley Wind Power Project on the county, what are the general economic benefits of wind?

A. Electricity produced from wind projects can have a number of economic benefits. Because of technological improvements over the last several decades including improved turbine and blade design and construction and enhanced computer control systems, the cost of wind generated electricity has become highly competitive with all other new generating resources including generation from fossil fuels. The actual cost of wind generation is most dependent on the location of the project and the intensity and duration of the wind at a given location. The recent and continued siting of wind projects in Washington State by itself demonstrates its economic competitiveness.

Wind generation also has the benefit of not incurring highly volatile operating costs. Wind turbines are not dependant on commercial fuel sources such as coal, oil, or, in

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particular, natural gas. Over the last several years we have seen significant volatility in the price of fossil fuels. Just as one example, wholesale natural gas prices at the Sumas, Washington trading hub for the week of June 23 were $5.25 per million BTU, up from an average of approximately $2.00 per million BTU in 1999. Such price volatility represents a significant concern, because fuel costs are by far the largest single component of the total cost of natural gas electricity generation. At $4.00 per million BTU, the cost of gas would represent about 75 percent of the total cost of constructing and operating a natural gas-fired combined cycle combustion turbine. This kind of price volatility raises serious concerns about the future cost of electricity from natural gas-fired generation.

I believe the best way to illustrate the competitive position of wind projects is to provide examples of significant commitments by some of Washington's largest electric utilities to new wind projects. These utilities, whether investor-owned utilities regulated by the state, or publicly-owned and controlled utilities, are required to make economic prudent investment for their customers. Wind generation is clearly an economically prudent investment.

Puget Sound Energy (PSE) in its 2003 least cost plan notes that "PSE makes a strategic decision to build a diversified supply portfolio that includes a goal to meet five percent of its energy resource needs through renewable resources." "PSE will…continue to explore ways to attain a target of providing 10 percent of PSE's energy needs through renewable resources." Exhibit 60.3 (TU-3). PSE used their least cost plan as a basis

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for a request for proposals for new generation and in May 2004 narrowed the field to seven projects, three of which are wind, and two of which are proposed to be located in Kittitas County. Exhibit 60.4, (TU-4)

Similarly, Seattle City Light, Pacific Power, and the Bonneville Power Administration (BPA) have explicitly added wind generation projects to their resource mix in order to diversify their electricity supply and provide least-cost resources to their consumers.

In 2002, Seattle City Light made one of the largest utility wind purchases in the country -175 megawatts of capacity. Exhibit 60.5 (TU-5). Pacific Power has committed to 1,400 megawatts of renewable projects over the next 10 years, most of which is expected to be wind power. Exhibit 60.6 (TU-6) Finally, BPA, which provides all of the electricity supply to Kittitas PUD, purchases more than one-third of the output of the Stateline Wind Project, one of the largest in North America. Exhibit 60.7 (TU-7)

Q What will the economic impacts be for Washington citizens?

A If power from the Kittitas Valley Wind Power Project is sold on the open market, then the benefits of its low cost supply could be enjoyed by any customer of any utility in Washington that buys the power. More likely, the economic benefits will accrue to the customers of the utility or utilities that contract for the bulk of the Project's supply. Even so, in some cases, its power could be sold on the market when, for example, the hydropower system is flush with record amounts of water. Citizens in general will

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benefit from its low environmental costs. Customers of a purchasing utility will benefit from its low generation costs.

Q How will citizens of Kittitas County benefit?

A Different citizens will benefit in different ways, but all will see some economic benefit. Annual royalty payments will be made to a number of citizens who are leasing their land for the construction of the turbines. Some combination of increased revenue to the county or a reduced tax burden on existing property owners should result, but again I understand that details about this are being provided through the testimony of EcoNorthwest. Finally, citizens may benefit from the low cost power generated by the Project. If the Bonneville Power Administration buys the power, citizens who are customers of Kittitas County PUD or the City of Ellensburg will benefit, as well as residential customers of PSE. If PSE buys the power, citizens who are PSE customers will benefit. PSE serves approximately 50 percent of the electricity customers in Kittitas County. The City of Ellensburg and Kittitas County PUD, both of which buy all their power from BPA, serve the rest of the county.

The Kittitas Valley Wind Power Project also represents benefits to the state that would otherwise leave the state. For example, if electricity is purchased from out-of-state, the entire payment leaves the state. Even if the electricity is generated in Washington a percentage of the cost is likely to leave the state. Washington has no indigenous natural gas reserves. Generating electricity from new natural gas-fired combined cycle

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combustion turbines - the lowest cost new fossil fuel resource - requires a generating entity to purchase fuel from out of state, either from Canada or the Rocky Mountain region. While Washington citizens may have investments in such companies, the out-of-state purchase represents a cost that does not exist for wind generation because the fuel (wind) is indigenous and free, and therefore there are no payments to go out-of-state. Neither wind turbines nor combustion turbines are built in Washington, but the cost of fuel, purchased out-of-state, is a cost not borne in wind generation.

Mr. Andrew O. Linehan has testified for the Applicant in Exhibit 21 (AL-T), on page 8, that, according to county zoning code, in at least one of the two zones in which the Project is proposed – Forest and Range – that natural resource management is "the highest priority" for the zone. Wind generation represents the utilization of an indigenous natural resource, i.e. wind, which does not require utilities to go out-of-state to purchase either electricity or the fuel to generate it.

Environmental

Q. What are the environmental benefits of wind energy development compared to electricity from fossil fuel sources?

A. There are a number of environmental benefits when comparing wind with fossil fuel generated electricity. I believe that this is one of the primary reasons that CTED's statutory authority cites a preference for renewable energy development. These

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benefits include no direct criteria air pollutant emissions or water pollution emissions from operation of wind turbines, no need for water for power plant cooling, and relatively small and largely mitigatable land use impacts. However, I do not propose to focus on these areas in my testimony as they are well described in the draft environmental impact statement and will likely be covered by other witnesses. Rather I will concentrate on the greenhouse gas emissions benefits of wind development and other renewable energy resources.

Q. Why is the state concerned about global warming and climate change?

A CTED believes that reducing our state's carbon dioxide production is one of the most important actions we can take to protect the state's economy in the future. The costs of climate change to the state are potentially devastating, especially in the area of electricity generation. Wind power helps in two ways; it is an alternative to hydropower (which is threatened by global warming as our snow pack declines), and it does not generate additional greenhouse gases. Some resources, such as natural gas-fired combustion turbines are beneficial in that they too offer an alternative to hydropower, but they exacerbate global warming by generating carbon dioxide.

Q Why are greenhouse gas emissions an important consideration in this project?

A In the 2004, the legislature and governor enacted legislation that requires fossil fueled power plants to mitigate a portion of their CO2 emissions (Substitute House Bill 3141). This bill requires developers of fossil fueled power plants to mitigate 20 percent of the

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total greenhouse gas (chiefly carbon dioxide) emissions for the life of the plant. The law clearly recognizes that greenhouse gas emissions are an important concern to the state and that fossil fueled power plants make significant contributions to those emissions. The Kittitas Valley Wind Power Project will have no direct greenhouse gas emissions.

Q What other Washington State policy statements support the relationship between renewable (wind) energy development and greenhouse gas emissions reduction or elimination?

A In September 2003, Governors Locke, Kulongoski, and Davis entered into a West Coast Governors' Global Warming Initiative for the purpose of reducing greenhouse gas emissions in Washington, Oregon, and California. Following Governor Davis's departure, Governor Schwarzenegger continued California's participation in the initiative. Among the actions called for in that initiative are measures "[r]emoving barriers to and encouraging the development of renewable energy generation resources and technologies." (Exhibit 60.8) (TU-8) This is a clear recognition of the benefits of renewable energy as a source of low or no carbon dioxide emissions.

Electricity System Benefits

Q You indicated previously that there were some electric system benefits from building wind power projects, can you expand on that?

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A Yes. Our existing electricity system in Washington and the region is highly dependent on hydropower. During a good water year, approximately 70 percent of the generation in Washington is from hydroelectric dams. This has been a great benefit to Washington because the price of power from these facilities has been very low – virtually the lowest cost electricity in the nation. Another benefit of hydropower is its large capacity relative to the amount of electricity generated on average. For example, the Grand Coulee dam generates about 2,200 Megawatts on average each year, but it has an operating capacity three times greater – 6,800 Megawatts – that greatly aids in meeting periods of peak demand. Washington State typically has not faced capacity shortages, unlike many parts of the country. The down side of this is that we are heavily dependent on timely precipitation and annual snow pack. We must have sufficient rain and snow every single year to meet electricity demand with our own resources. There is not enough reservoir capacity in the system to carryover from a wet year to a dry year, and if our water deficit is greater than our import capacity (or import power is not available) we can face a shortage of electric energy in a drought year. This is what occurred in 2001. Stream flow in the Columbia River system measured about 50 percent of normal, and California was unable to guarantee sufficient import power to meet our peak winter demand. We ended up shutting down about 2,000 megawatts of aluminum plant, and the power we were able to buy on the spot market was hugely expensive. This vulnerability is due to the fact that we depend so heavily on hydropower. We have, in essence, put all our electricity "eggs" in the same basket.

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A key solution to this vulnerability is to diversify our portfolio of generating resources. CTED is on record in support of the BP Cherry Point Cogeneration Project for this purpose, as well as its high conversion efficiency due to cogeneration. Construction of regional wind projects would help diversify our resource portfolio away from hydropower, and add another dimension of diversity beyond generation with variable priced natural gas. Each resource type has characteristics that bring benefits to the system, and costs. Natural gas generation, as previously stated, may be more reliable than hydropower but it is more costly, and the risk of increased costs in the future is high compared to hydropower or wind. Wind is low cost, and like hydropower has minimal risk of future cost increases because there is no cost for the fuel (wind, like water, is free). Wind reliability also contrasts well when compared to hydropower. Hydropower reliability is excellent on a daily basis, but can be very unreliable annually. Wind can be unreliable on an hourly basis, but it will be there every year, year after year. Integrating large amounts of regional wind generation into our existing system will provide significant reliability benefits (along with its cost and cost risk benefits). State and regional utilities are examining ways to link the wind and hydro systems more efficiently – using wind generated electricity to defer the need to run water through hydro turbines, thus effectively providing a storage medium for intermittent wind resources.

Another system benefit of the Kittitas Valley Wind Power Project is its proximity to

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high voltage transmission lines. Both the Bonneville Power Administration and Puget Sound Energy have transmission lines that cross the Project boundary lines. There is no need to construct costly new transmission lines to hook up with the grid. Avoiding the construction of such associated facilities represents both cost savings and reduced environmental impacts.

Respectfully Submitted,

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